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| <b>PRE-APPEAL BRIEF REQUEST FOR REVIEW</b>   |  | Docket Number (Optional)<br><br>27592-00912-US  |                             |
|  |  | Application Number<br>10/616,882-Conf.<br>#2633 | Filed<br><br>July 9, 2003   |
|  |  | First Named Inventor<br>Kamlesh Rath            |                             |
|  |  | Art Unit<br><br>2633                            | Examiner<br><br>A. Gonzalez |
| <p>Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.</p> <p>This request is being filed with a notice of appeal.</p> <p>The review is requested for the reason(s) stated on the attached sheet(s).<br/>Note: No more than five (5) pages may be provided.</p> <p>I am the</p> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 60%;"> <p><input type="checkbox"/> applicant/inventor.</p> <p><input type="checkbox"/> assignee of record of the entire interest.<br/>See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)</p> <p><input checked="" type="checkbox"/> attorney or agent of record.<br/>Registration number <u>43,828</u></p> <p><input type="checkbox"/> attorney or agent acting under 37 CFR 1.34.<br/>Registration number if acting under 37 CFR 1.34. _____</p> </div> <div style="width: 35%; text-align: center;"> <p>_____<br/>/Arlene P. Neal/<br/>Signature</p> <p>_____<br/>Arlene P. Neal<br/>Typed or printed name</p> <p>_____<br/>(202) 331-7111<br/>Telephone number</p> <p>_____<br/>April 16, 2009<br/>Date</p> </div> </div> <p>NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.</p> |  |   |                             |
| <input type="checkbox"/> *Total of <u>1</u> forms are submitted.   |  |   |                             |

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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In re Patent Application of:  
Kamlesh Rath

Application No.: 10/616,882

Confirmation No.: 2633

Filed: July 9, 2003

Art Unit: 2617

For: SCALABLE BROADBAND WIRELESS MESH  
ACCESS NETWORK

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Examiner: A. Gonzalez

REMARKS ACCOMPANYING REQUEST FOR PRE-APPEAL BRIEF REVIEW

In accordance with the Pre-Appeal Brief Conference Pilot Program guidelines set forth in the July 12, 2005 Official Gazette Notice, Applicant hereby submits this Pre-Appeal Brief Request for Review of the final rejections of claims 1-36 in the above identified application. Claims 1-36 were finally rejected in the Office Action dated February 19, 2009. Applicant hereby appeals these rejections and submit this Pre-Appeal Brief Request for Review. A Notice of Appeal is filed timely concurrently herewith. This Pre-Appeal Brief Request for Review is being timely filed. As will be discussed below, numerous clear errors exist in the final rejections that require withdrawal thereof.

Claims 1-4, 7 and 12-18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 7,158,784 to Majidi-Ahy (hereinafter "Majidi-Ahy") in view of U.S. Patent No. 6,836,515 to Kay et al. (hereinafter "Kay") and in further view of U.S. Patent No. 6,728,514 to Bandeira et al. (hereinafter "Bandeira"). As outlined below, the Majidi-Ahy, Kay and Bandeira fail to disclose or suggest the combination of elements of claims 1-4, 7 and 12-18. The failure of Majidi-Ahy, Kay and Bandeira to disclose each and every element of the present claims constitutes clear error.

Bandeira discloses scalable network topologies and access methods (e.g., medium access control) using frequency, time, and directional diversity. Wireless broadband data access is provided to and from a plurality of locations distributed randomly over a large geographic area. Various network topologies and access methods are provided, which allow numerous transmitting instruments to co-exist without loss of the communication link or information (e.g., data packets) due to collisions or conflicts within the network or system. Network nodes only require two independent communication channels and may combine the use of frequency and directional diversity to allow multiple nodes to transmit simultaneously in the same geographical area without collisions. The

network does not require a backbone to be deployed, with all traffic capable of being forwarded by the wireless apparatus, through multiple hops, if necessary, to reach its intended destination. Backbone point-to-point links can be added at a later time to scale-up the network, if desired, but are not needed until the total available capacity has been utilized. See at least Col. 2, line 63-Col. 3, line 34 of Bandeira.

Kay discloses a point to multipoint system that includes hub sites each having multi-mode hub terminals and multiple multi-mode remote terminals. The remote terminals are located within multiple sectors. The hub site includes one or more hub terminals for each sector, depending on multiple channels and location of the subscriber premises containing the remote terminals. Each hub terminal is a sector radio used to communicate with the remote terminals within its particular sector. Each remote terminal includes an indoor unit, service specific interface modules, an outdoor unit, an intrafacility link, and a communications link. The hub terminals include an outdoor unit, a hub indoor unit, an intrafacility link, among other features.

Applicant submits that the combination of Majidi-Ahy, Bandeira and Kay does not teach or suggest the combination of elements recited in the pending claims. Therefore, the rejection of the claims based on Majidi-Ahy, Bandeira and Kay is clearly an error. Independent claims 1 and 19, in part, recite “each sector comprising of a plurality of terminal nodes, said terminal nodes comprising both indoor terminal nodes and outdoor terminal nodes, and comprising a plurality of outdoor repeaters, wherein each of the plurality of terminal nodes comprises an antenna.” The Office Action acknowledged that Majidi-Ahy does not teach indoor terminal nodes and outdoor terminal nodes. Therefore, the Office Action cited Kay to cure these deficiencies.

As previously noted, the indoor and outdoor units of Kay are not equivalent to the indoor terminal nodes and outdoor terminal nodes, recited in claim 1. The indoor units of Kay are merely “channel processing units” within a terminal node and are not terminal nodes with an antenna for receiving signals from a base station and/or repeater. Kay discloses an indoor unit and an outdoor unit of remote terminals and hub terminals. The Office Action is merely taking internal components (indoor and outdoor units) of the remote terminals and hub terminals of Kay and alleges that the internal components are equivalent to indoor terminal nodes and outdoor terminal nodes, recited in claim 1, even though there is no teaching or suggestion in Kay that these internal components of the remote terminals and hub terminals are terminal nodes or that they perform the functions of a terminal node, as known to those skilled in the art. Therefore, Kay does not teach or suggest “each

sector comprising of a plurality of terminal nodes, said terminal nodes comprising both indoor terminal nodes and outdoor terminal nodes, and comprising a plurality of outdoor repeaters, wherein each of the plurality of terminal nodes comprises an antenna,” as recited in the pending claims

Furthermore, Kay teaches that inter-symbol interference can be minimized using an equalizer. See Col. 3, lines 54-55. Kay also discloses that an element manager system of the central office includes an element manager which performs off-the-network management functionality. See Col. 15, lines 43-46. Col. 74, line 61-Col. 75, line 6 of Kay teach that the element manager switches to a backup hub terminal in case of failure. Kay further teaches that the antennas of the outdoor units of the hub terminals have reduced or low level sidelobes so as to transmit the narrow beam without causing interference with alternate sectors using the same frequency. See Col. 17, lines 8-23 of Kay.

Claims 1 and 19, on the other hand, recite that “a module for interference management and sector reuse comprising network management of frequency, time, and directionality.” The Office Action alleged that module recited in the present claims reads on the equalizer disclosed in Kay. None of the cited sections of Kay teaches or suggests “a module for interference management and sector reuse comprising network management of frequency, time, and directionality,” as recited in claims 1 and 19. While some elements of Kay do perform network management functions, these functions, such as switching to a backup hub terminal in case of failure, are not equivalent to those recited in claims 1 and 19.

Bandeira is further combined with Kay to teach or suggest “a module for interference management and sector reuse comprising network management of frequency, time, and directionality,” as recited in the pending claims. The Office Action also alleged that Col. 2, lines 62-65 and Col. 3, lines 16-21 of Bandeira discloses “management of frequency, time, and directionality.” But these sections of Bandeira merely disclose the use of frequency, time and directional diversity. As noted in the previous Response, using frequency time, and directional diversity, as disclosed in Bandeira, is not the same as “network management of frequency, time, and directionality.” There is no discussion or suggestion in Bandeira of “a module for interference management and sector reuse comprising network management of frequency, time, and directionality,” as recited in claims 1 and 19.

Even if one skilled in the art were to combine the use of frequency, time and directional diversity, as disclosed in Bandeira, with the various network management features disclosed in Kay, one would not obtain “a module for interference management and sector reuse comprising network

management of frequency, time, and directionality,” as recited in claims 1 and 19. One skilled in the art combining the teachings of Bandeira and Kay would obtain a system that uses frequency, time and directional diversity and that minimizes interference by using certain components, for example, equalizer or antennas with low level sidelobes. As noted above, Kay merely teaches minimizing interference with an equalizer or antennas with low level sidelobes. Kay also teaches an element manager that performs network management functions, in particular backup functions. Neither the equalizer nor element manager of Kay is “a module for interference management and sector reuse,” as the Office Action seems to allege. In Kay, interference is minimized by the use of certain components. However, Kay does not teach or suggest a specific module for management of interference or sector reuse.

Therefore, Applicant asserts that the combination of Majidi-Ahy, Kay and Bandeira fails to teach or suggest each of the elements recited in claims 1 and 19. Each of claims 2-18 and 20-36 depends on claims 1 and 19 and therefore incorporates all of the elements of claims 1 and 19, in addition to the further limitations recited in claims 2-18 and 20-36. Hence, each of claims 2-18 and 20-36 is also allowable, at least because of their dependence on claims 1 and 19. Therefore, Applicant respectfully requests that this rejection of claims 1-4, 7 and 12-18 under 35 U.S.C. §103 is in clear error and should be withdrawn.

Claims 5, 6, 23 and 24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Majidi-Ahy, in view of Kay, further in view of Bandeira as applied to claim 1, and in further view of U.S. Patent No. 5,809,431 to Bustamante et al. (hereinafter “Bustamante”). Claims 8-11 and 26-29 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Majidi-Ahy, in view of Kay, further in view of Bandeira as applied to claims 1 and 7, and in further view of U.S. Patent No. 6,973,312 to Ngan et al. (hereinafter “Ngan”). These rejections are clearly erroneous and Applicant requests the withdrawal of the rejections.

Neither Bustamante nor Ngan cures any of the deficiencies of the combination of Majidi-Ahy, Kay and Bandeira. In particular, Bustamante and/or Ngan fail to teach or suggest that “each sector comprising of a plurality of terminal nodes, said terminal nodes comprising both indoor terminal nodes and outdoor terminal nodes, and comprising a plurality of outdoor repeaters, wherein each of the plurality of terminal nodes comprises an antenna,” as recited in claims 1 and 19, upon which claims 5-6, 8-11, 23, 24 and 26-29 depend. Bustamante and Ngan also fails to teach or suggest “a module for interference management and sector reuse comprising network management of

frequency, time, and directionality,” as recited in claim 1, upon which claims 5-6, 8-11, 23, 24 and 26-29 depend. Therefore, Applicant respectfully requests that the rejections of claims 5-6, 8-11, 23, 24 and 26-29 under 35 U.S.C. §103 be withdrawn.

For all of the above noted reasons, it is strongly submitted that certain clear differences exist between the present invention as claimed in claims 1-36 and the prior art relied upon by the Examiner. It is further submitted that these differences are more than sufficient that the present invention would not have been anticipated or obvious to a person having ordinary skill in the art at the time the invention was made. This final rejection being in clear error, therefore, it is respectfully requested that the Examiner's decision be reversed in this case regarding the rejections of claims 1-36. Reconsideration and withdrawal of all prior rejections and a Notice of Allowance are respectfully requested.

Applicant believes no fee is due with this response other than any fee that may be indicated on an accompanying paper. However, if a fee is due, please charge our Deposit Account No. 22-0185, under Order No. 27592-00912-US from which the undersigned is authorized to draw.

Dated: April 16, 2009

Respectfully submitted,

Electronic signature: /Arlene P. Neal/

Arlene P. Neal

Registration No.: 43,828

CONNOLLY BOVE LODGE & HUTZ LLP

1875 Eye Street, NW

Suite 1100

Washington, DC 20006

(202) 331-7111

(202) 293-6229 (Fax)

Attorney for Applicant